



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/630,721

07/31/2003

Kyung-Ho Min

P-0531

9364

34610

7590

06/14/2007

KED & ASSOCIATES, LLP

P.O. Box 221200

Chantilly, VA 20153-1200

EXAMINER

HARTMANN II, KENNETH R

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

06/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/630,721

Applicant(s)

MIN, KYUNG-HO

Examiner

Kenneth R. Hartmann

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-11 and 18-21 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 12 is/are rejected.
- 7) ☒ Claim(s) 13-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/31/03, 02/11/04, 12/14/05</u> | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Buehrer et al (US 6,515,978).

For claim 1, Buehrer et al. disclose an apparatus for increasing channel capacity of a mobile communication system that checks a sequence of Walsh codes from a plurality of channels (s1 and s2, Fig. 9A) and to select a set of complex functions output from a Walsh rotator (916-1, Fig. 9A) based on the sequence of the Walsh codes (for even stream, Walsh code A is used, for odd streams Walsh code B is used each of which are multiplied by certain functions in the complex multiplier). It is inherent that a control device is used to determine which complex functions are selected to be multiplied with the Walsh codes depending on which Walsh code it is, see column 15, line 56- column 16, line 6).

For claim 2, Buehrer et al. disclose an apparatus as described above, wherein the sequence of the Walsh codes includes one of identical sequences which are all identical as even or odd numbers and different sequences (for an even stream Walsh

Art Unit: 2616

code A is used and for the odd stream Walsh code B is used, see column 15, lines 56-66).

For claim 3, Buehrer et al. disclose an apparatus as described above. It would be inherent that the sequence of Walsh codes comprises one of all even numbers, all odd numbers, and a combination of even and odd numbers, since that is every possibility of the Walsh code sequences.

For claim 12, Buehrer et al. disclose a method for increasing channel capacity of a mobile communication system, comprising checking sequences of Walsh codes of a plurality of channels, and performing complex scrambling by selectively outputting a set of repeated complex function according to the sequences of Walsh code (after being multiplied and rotated Walsh code A and Walsh code B are complex spread in complex multipliers, see Fig. 9A and column 15, line 56 to column 16, line 4).

Allowable Subject Matter

3. Claims 4-11 and 18-21 are allowed.

For claims 4-11, the prior art fails to teach or obviously suggest a Walsh code control unit to check sequences from first and second Walsh code units, a Walsh rotator to generate and output a plurality of repeated complex functions, and a rotator control unit to select the functions from the Walsh rotator based on the sequence of the Walsh codes.

For claims 18-21, the prior art fails to teach or obviously suggest a method for increasing channel capacity of a mobile communication system, comprising checking sequences of Walsh codes output from first and second Walsh code units, determining

that the sequences are either all even or all odd, determining whether the sequences of the Walsh codes are different compositions of even and odd number sequences, and based on these determinations outputting a repeated complex function.

4. Claims 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lyu (US 7,123,579) is cited to show a Walsh generator, rotator and complex multiplier. Holtzman et al. (US 2002/0021683) is cited to show a rotator that generates a different phase rotation for Walsh codes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth R. Hartmann whose telephone number is 571-270-1414. The examiner can normally be reached on Monday - Thursday, 10 - 3 EST.

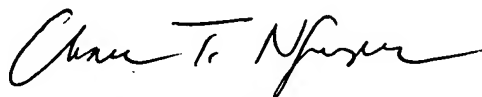
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2616

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kenneth Hartmann
AU 2616



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600